



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,531	06/26/2001	Koji Okamoto	60188-070	9360

7590 05/10/2005

Jack Q. Lever, Jr.
McDERMOTT, WILL & EMERY
600 Thirteenth Street, N.W
Washington, DC 20005-3096

EXAMINER

GHULAMALI, QUTBUDDIN

ART UNIT PAPER NUMBER

2637

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/888,531	Applicant(s) OKAMOTO, KOJI	
	Examiner Qutub Ghulamali	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/04/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgment

1. This Office Action is responsive to Remarks filed on 12/20/2004.
2. The examiner acknowledges amendment to drawing Fig. 2 submitted by the applicant in response to the office action dated September 22, 2004. The drawings were received on 12/20/2004. The drawing is acceptable.

Response to Arguments

3. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Rejections based on the newly cited reference(s) follow:

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchwald (US Patent No. 5,757,857) in view of Kazawa et al (US Patent No. 5,123,030), and further in view of Brouwer (US Patent 4,453,084).

Regarding claim 1, Buchwald discloses (figs. 1, 3, 4, 10), a clock recovery circuit comprising:

a clock generation part (61) for generating a clock signal (col. 7, lines 13-18);

a phase error detection part (78, 80, 82, 84) for detecting a phase error of said input signal (data in) with respect to said clock signal (col. 8, lines 10-16; col. 9, lines 61-67);

a control part (58) for controlling based on an output of said phase error detection part, an oscillation frequency of said clock generation part so that said phase error becomes zero (col. 5, lines 36-50; col. 7, lines 13-18; col. 8, lines 10-16). The difference between Buchwald and the claimed invention is lack of explicit showing of phase error estimation, cross detection, pattern detection of a reproduction (input) signal and a selection part for selecting.

Kazawa in a similar field of endeavor, discloses (figs. 1-3, 5), a cross-detection part (2), whereby the zero cross timings 101 (fig. 6) are extracted, a phase error estimation part (55, 80) for estimating based on timing signal (col. 11, lines 36-48, 50-67), a pattern detection part (pattern selector 8, cooperatively with gate 60 and discriminator 7), delivers value 121 (fig. 11) in synchronism with the clock pulses 120 (col. 7, lines 65-68; col. 8, lines 1-8, 34-36; col. 11, lines 36-47, 51-67). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include in the circuit of Buchwald, embodiments highlighted above, so as to allow recovery of correct signal information as taught by Kazawa. The Buchwald and Kazawa combination though discloses a selection part (5, 10), it, however, does not explicitly disclose selecting according to the detected variation pattern whether the estimated phase error is output to the control part. Brouwer in a similar field of endeavor discloses:

Art Unit: 2637

a selection part (125) for selecting, according to said detected variation pattern (183), whether said estimated phase error is output to said control part (col. 8, lines 45-67; col. 9, lines 1-66). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a selection circuit for selecting according to detected variation pattern a signal as taught by Brouwer in the circuit of Buchwald and Kazawa, so as to achieve proper clock recovery from the reproduction signal.

Allowable Subject Matter

6. Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patents:

Beherns (US Patent 5,572,558), discloses a PID Loop for timing recovery in sampled data.

Bowles (US Patent 6,389,548) shows a system and method for measuring a pulse run length.

Buhler et al (US Patent 6,775,344), discloses digital signal loss of synchronization between data signal and data clock.

Kato et al (US Patent 4,906,941), shows a digital phase lock loop circuit sample the reproduced signal at a sampling frequency.

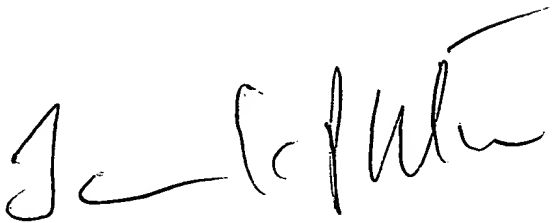
Art Unit: 2637

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (571) 272-3014. The examiner can normally be reached on Monday-Friday from 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QG.
May 4, 2005.



JAY K. PATEL
SUPERVISORY PATENT EXAMINER